

IN THE CLAIMS:

Please amend claims 11, 13-15 and 17-18 and add claim 33 as follows.

1. (Previously Presented) A method for implementing an adaptive channel estimator, comprising:

determining from a received signal at least one variable representing statistical characteristics of the channel,

determining a prefilter by means of at least one variable representing the statistical characteristics of the channel,

adapting sample rate of the prefilter output for a channel estimator.

2. (Previously Presented) The method of claim 1, wherein the statistical variable is Doppler spread, the form of Doppler power spectrum, the width of Doppler power spectrum, the speed of a radio transmitter, channel coherence time, correlation between channel measurements or signal-to-noise ratio.

3. (Previously Presented) The method of claim 1, wherein the sample rate is adapted by decimation.

4. (Previously Presented) The method of claim 1, wherein the sample rate is adapted by interpolation.

5. (Previously Presented) The method of claim 1, wherein the sample rate is adapted in relation to the prefilter input signal and the at least one variable representing the statistical characteristics of channel determined from the received signal.

6. (Previously Presented) The method of claim 1, wherein the length of the channel estimator is constant.

7. (Previously Presented) The method of claim 1, wherein the Doppler spread is measured at the prefilter input.

8. (Previously Presented) The method of claim 1, wherein the Doppler spread is measured at the prefilter output.

9. (Previously Presented) The method of claim 1, wherein the Doppler spread or the correlation between the channel measurements are kept at least substantially constant by means of feedback at the prefilter output.

10. (Previously Presented) The method of claim 1, wherein the bandwidth of the decimator and interpolator filters changes in relation to a change in the sample rate.

11. (Currently Amended) A prefiltering arrangement for implementing an adaptive channel estimator, the prefiltering arrangement comprising:

a determining unit configured to determine~~means for determining~~ from a received signal at least one variable representing statistical characteristics of the channel,

a determining unit configured to determine~~means for determining~~ the number of prefilter taps by means of at least one variable representing the statistical characteristics of the channel,

an adapting unit configured to adapt~~means for adapting~~ sample rate of the prefilter output for a channel estimator.

12. (Previously Presented) The prefiltering arrangement of claim 11, wherein the statistical variable is Doppler spread, form of Doppler power spectrum, width of Doppler power spectrum, speed of a radio transmitter, channel coherence time, correlation between channel measurements or signal-to-noise ratio.

13. (Currently Amended) The prefiltering arrangement of claim 11, the arrangement comprising an adapting unit configured to adapt~~means for adapting~~ the sample rate by decimation.

14. (Currently Amended) The prefiltering arrangement of claim 11, the arrangement comprising ~~means for adapting~~ an adapting unit configured to adapt the sample rate by interpolation.

15. (Currently Amended) The prefiltering arrangement of claim 11, the arrangement comprising ~~means for adapting~~ an adapting unit configured to adapt the sample rate in relation to the prefilter input signal and the at least one variable representing the statistical characteristics of the channel determined from the received signal.

16. (Previously Presented) The prefiltering arrangement of claim 11, wherein the length of the channel estimator is constant.

17. (Currently Amended) The prefiltering arrangement of claim 11, wherein the arrangement comprises ~~means for measuring~~ a measuring unit configured to measure Doppler spread at the prefilter input.

18. (Currently Amended) The prefiltering arrangement of claim 11, wherein the arrangement comprises ~~means for measuring~~ a measuring unit configured to measure Doppler spread at the prefilter output.

19. (Previously Presented) The prefiltering arrangement of claim 11, wherein the Doppler spread or the correlation between the channel measurements is kept at least substantially constant by means of feedback at the prefilter output.

20. (Previously Presented) The prefiltering arrangement of claim 11, wherein the bandwidth of the decimator and interpolator filters changes in relation to a change in the sample rate.

21. (Previously Presented) A base station, in which a channel estimator input signal is adapted, the base station comprising:

means for determining from a received signal at least one variable representing statistical characteristics of the channel,

means for determining the number of prefilter taps by means of at least one variable representing the statistical characteristics of the channel,

means for adapting sample rate of the prefilter output for a channel estimator.

22. (Previously Presented) The base station of claim 21, wherein the statistical variable is Doppler spread, form of Doppler power spectrum, width of Doppler power spectrum, speed of a radio transmitter, channel coherence time, correlation between channel measurements or signal-to-noise ratio.

23. (Previously Presented) The base station of claim 21, wherein the base station comprises means for adapting the sample rate by decimation.

24. (Previously Presented) The base station of claim 21, wherein the base station comprises means for adapting the sample rate by interpolation.

25. (Previously Presented) The base station of claim 21, wherein the arrangement comprises means for adapting the sample rate in relation to the prefilter input signal and the variable representing the statistical characteristics of the channel determined from the received signal.

26. (Previously Presented) The base station of claim 21, wherein the length of the channel estimator is constant.

27. (Previously Presented) The base station of claim 21, wherein the arrangement comprises means for measuring the Doppler spread at the prefilter input.

28. (Previously Presented) The base station of claim 21, wherein the arrangement comprises means for measuring the Doppler spread at the prefilter output.

29. (Previously Presented) The base station of claim 21, wherein the Doppler spread or the correlation between the channel measurements is kept at least substantially constant at the prefilter output.

30. (Previously Presented) The base station of claim 21, wherein the bandwidth of the decimator and interpolator filters changes in relation to a change in the sample rate.

31. (Previously Presented) A prefiltering arrangement, comprising:
first determination means for determining from a received signal at least one variable representing statistical characteristics of a channel;

second determination means for determining the number of prefilter taps of a prefilter using at least one variable representing the statistical characteristics of the channel; and

adaptation means for adapting sample rate of a prefilter output of the prefilter for an adaptive channel estimator.

32. (Previously Presented) A base station, comprising:
first determination means for determining from a received signal at least one variable representing statistical characteristics of a channel;

second determination means for determining the number of prefilter taps of a prefilter using at least one variable representing the statistical characteristics of the channel; and

adaptation means for adapting sample rate of a prefilter output of the prefilter for an adaptive channel estimator.

33. (New) A prefiltering arrangement for implementing an adaptive channel estimator, the prefiltering arrangement comprising:

means for determining from a received signal at least one variable representing statistical characteristics of the channel,

means for determining the number of prefilter taps by means of at least one variable representing the statistical characteristics of the channel,

means for adapting sample rate of the prefilter output for a channel estimator